





# Newfoundland's Fisheries;

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Gold Mines of Peru,”

As Lord Bacon Declared Three  
Centuries Ago.



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## **NEWFOUNDLAND'S FISHERIES;**

**Richer by Far Than All the Gold Mines of Peru,"**

**AS LORD BACON DECLARED THREE CENTURIES AGO.**

The fishery wealth of Newfoundland, even as the industry is at present prosecuted, is the greatest in the world, all things considered, and yet is capable of enormous development by the application of modern methods. The codfishery of this Island, including that of its appanage, Labrador, is the most profitable known to man. It was this fishery wealth that attracted the West-countrymen to the Island four centuries ago and that has maintained the prosperous existence of the colony for all that long period. The riches of the waters that wash its shores are as undiminished apparently to-day as they were when John Cabot first sighted "ye new Isle" in 1497.

### **Cod Fishery.**

Within a century and co-equal with its growth and population the annual catch of cod, so the official records show, has grown from half a million to one and a half million quintals [112 lbs.] and two seasons back, in 1908, the greatest catch ever made in the colony's annals was secured, some 1,800,000 qtls., or nearly 300,000 better than the largest previous figure. The value of this fish, exported to the markets at present supplied, varies from six to eight million dollars a year. All of it is preserved by being salted and dried, as "stock fish" was in the olden days when dry cod was in large demand in England, the sumptuary laws of Queen Elizabeth's time requiring all citizens to consume fish twice a week, partly



as an encouragement for the fishing industry. The growth of the North Sea fisheries and the other sea-food industries of the British Isles, together with the multiplying of means of distribution through the agency of railroads, has practically driven the Newfoundland salt cod out of consumption in England, and its chief markets to-day are in Portugal, Spain, Italy, Greece, West Indies and Brazil.

#### WHAT COLD STORAGE WOULD DO.

If cold storage, for instance, could be employed in the preservation of this vast annual harvest of fish or even for a considerable portion of it, an enormous advantage would be gained, not alone for those who catch, but for those who export the fish from Newfoundland. To the west of the Island lies Canada, with a population estimated to-day at over seven millions and rapidly increasing, and a little to the south the United States with its ninety millions, the vast majority of whom are rarely able to secure succulent sea-food at all. The value of the British fisheries is about \$45,000,000 a year, or \$1 per head. The value of the United States fisheries, including the oyster fisheries of the Gulf of Mexico, and the river and lake fisheries all over the Union, is only \$40,000,000 a year, or less than one half the per capita value of the British fisheries. The result is that, except for the areas within a day's run of tidewater on the Atlantic and the Pacific fronts, the rest of the American people are seriously inconvenienced for fresh fish food. The same is true of the central sections of Canada, and the seriousness of the situation is accentuated by the fact that the fisheries of Maritime Canada and the New England States are declining.

#### DECLINE ON CONTINENT.

The fisheries of Nova Scotia and New Brunswick have declined fifty per cent in the past ten years. The fisheries of New England, eliminating the lobster fishery, the product of which, owing to the scarcity of the crustaceans, has reached famine prices, show a similar decline. The New England smack-owners are no longer able to induce native-born Americans to engage in the industry on the Grand Banks because of its

hazards and hardships, and have to crew the vessels with Scandinavians, Canadians and Newfoundlanders, offering these higher wages than they can secure in their own countries, which the protective policy in force in America as to the fisheries enables them to do. But even with these aids the industry languishes. Various forms of State help are provided by the Federal and State Governments in America, notably an enormous expenditure by the United States Fishery Commission in the scientific propagation of fish, the restocking of depleted areas and the carrying on of deep-sea investigations to determine the habitat of the food fishes. In Canada, in the endeavour to maintain the fishing industry even on its present basis, the Federal Government pays two-thirds of the cost of conveying the fish in cold storage from tide-water to the inland Provinces; pays bounties totalling \$160,000 a year to the fishermen, and spends, in hatcheries and otherwise, large additional amounts, the total disbursements on account of the fisheries exceeding a million dollars each year.

#### NEWFOUNDLAND'S FISHERY PRE-EMINENCE.

Newfoundland, being an autonomous, independent Colony, with a population of but 250,000 souls, possesses none of these advantages, and cannot provide such appropriations, but nevertheless is able to maintain her fishing industry on a plane which none of the others can approach. This has been so because of (1) her proximity to the fishing grounds, which are at her very door; (2) the greater ability and expertness of her people in the prosecution of the industry; (3) the advantage of her geographical situation, and (4) the peculiar aid which her climate provides in the curing of fish.

These factors, taken together, and coupled with her possession of the great bait supply of the North Atlantic, account for Newfoundland enjoying the primacy in this industry for centuries past. The changing conditions of modern industry and demand of food buyers suggest the developing of trade in fresh fish, frozen fish, and cold-stored fish, with Canada, the British Isles, and the United States. Canada's whole product of fish in a year does not greatly exceed in quantity that of Newfoundland, though its value is three

times as great, a fact due largely to the enormous salmon fishery of the Pacific Coast, and in a less degree to the marketing of part of her fish products in a fresh or chilled condition; while the inadequacy of the American fish supply to cope with the needs of that country is notorious, especially just at present, when the agitation against the increased cost of living there proves that a legitimate auxiliary in cheapening food prices—an adequate supply of fish—is excluded because of the influence of the New England "Fish Trust" over Congress.

### POSSIBILITIES OF PROFITS.

The possibilities of the profitable investment of outside capital in the Newfoundland fisheries, even under existing circumstances, are attested by the statement of one of the leading members of the fish-exporting community of St. John's in the Legislative Council of the Island during the recent Parliamentary session, that, owing to the shortage of fish in foreign markets, caused by a reduced catch and export from the countries which chiefly compete with her, the Newfoundland fishermen had got at least \$1,500,000 more for their total catch in 1909 than they did in 1908; while by applying cold storage to much of this product, its value could be still further enhanced. Especially would this be the result with the winter codfishery carried on on the Southwest Coast or "Western Shore" as it is commonly known.

This branch of the industry is prosecuted all through the winter despite the turbulence of the season. The cod are then in excellent condition, and the frost tends to keep them perfect; and if cold storage were available an enormous trade could be done, because at that season there is very little fishing carried on by the Americans, none by the Canadians, and elsewhere in Newfoundland other industries occupy the attention of the people—on the West Coast the herring fishery is in progress, and on the East Coast the seal fishery is the great occupation. In the Spring, when the early codfishery around the seaboard begins, the same agency would enable the product to be carried to American and Canadian cities at a period when the demand for fish is very great; and with



the advances cold storage has been making of late years, it is easily believable that Newfoundland fish may before long find itself a daily article of diet for the people of Manitoba, Michigan, and Missouri.

#### FISH SUPPLY FOR ENGLAND.

Some time ago, as a writer in the local press pointed out, the British "Fish Trades Gazette" advocated English enterprise developing the fisheries of the White Sea, but this writer observed that a large fleet of cod vessels is fitted out every year from Newfoundland ports for fishing on the Grand Banks from March till November, the vessels usually returning every fortnight for fresh supplies of bait, which they take fresh and carry in ice; while, as the Grand Banks are only 1,400 miles from the West Coast of England, say from Liverpool or Bristol, as compared with the 1,800 miles to the White Sea, then, instead of salting down the cod, as is done at present, the owners would be quite willing to sell the fish fresh to a fish-carrier that might go for them from England, or the business might be worked up by the Colonial fishermen and exporters themselves. The cod are very large and of the very best quality, and often sufficient could be got for a cargo in a single day by buying from half a dozen or more vessels, as a moderate catch for each of them runs from 30,000 to 50,000 pounds a day, and the catch of the dories could be put direct on board the steamer, fresh from the "trawls" (lines). Other fish, like halibut or haddock, are also available there and a large and profitable trade could be worked up.

#### HALIBUT FROM LABRADOR.

Were a fresh fish trade enterprised between the Newfoundland banking fleet and English ports by means of "carriers" to collect fish from Newfoundland vessels fishing on the Banks, the business need not be confined exclusively to cod. It is well known to the American fishing masters that extensive halibut shoals extend from the Grand Banks as far as Northern Labrador, and at a distance of 15 to 70 miles from the land. The Americans do not resort to these Banks very much now as the American market is almost entirely supplied with halibut from the Pacific Coast.

Halibut is one of the most valuable of food fishes in English markets—usually selling retail at not less than one and twopence—28 cents per pound.

Beam-trawling, when it was tried in Newfoundland waters some years ago, was found to be more or less impracticable owing to the irregular contour of the bottom. Codfish, as is well known, prefer a broken bottom, whereas halibut are of the very opposite habit, and frequent level, sandy bottoms. It is therefore not improbable that the English method of trawling could be employed advantageously on those halibut banks, which, though situated almost at the doors of the Newfoundlanders, they cannot utilize for lack of markets for these fish. It goes without saying that could a business be enterprised that would make it possible for the Newfoundland banking vessels to sell their catch fresh for the English market the net returns therefrom would be more than double what they are at present, and from the fact that both cod and halibut may be procured on these banks it would not appear at all impossible that such a business could be developed.

#### FAR-AWAY QUESTS FOR FISH.

The Americans have sent vessels to South African waters, to the West Coast of Africa, to the Irish Coast, to Iceland, to Greenland and to farthest Labrador in quest of fish, and now the principal fishing enterprises of the Pacific Slope are dominated by the "Fishery Combine" of Boston and Gloucester, Massachusetts, the product being carried across the continent daily in refrigerator cars for sale in the Eastern States. But the further extension of the business is automatically restricted by the impossibility of securing enough men to crew a larger fishing fleet and by the inability of the masses to purchase fish, any more than meat, if the price is too high.

#### HERE IS NEWFOUNDLAND'S CHANCE!

Newfoundland's opportunity is seen in this—in the development of a trade in fresh or frozen codfish with the United States, where a practically limitless market for it exists always.

It is possible also to still further develop the markets for salt-cured cod-fish in South America. In only one section of Brazil, with a population of 15,000,000, is the consumption of Newfoundland cod general, yet the Brazil market absorbs nearly 400,000 quintals of this fish each year, or one-quarter of the entire export. Other Central and South American countries, with a combined population of nearly forty millions, peopled by the same Latin races, are available for the consumption of Newfoundland codfish, and if the same rate of consumption could be induced, practically the whole of the present catch could be absorbed by these countries and Brazil, without considering the Portuguese, Spanish, Italian and Greek nations at all.

#### NEWFOUNDLAND OUTWITS FRANCE.

An example of what it is possible to do in this direction is afforded by Newfoundland's experience with France. Twenty-five years ago, when the French, who have maintained a colony at St. Pierre-Miquelon, off the South Coast of Newfoundland, for two centuries, sending an armada of some 300 fishing vessels across the Atlantic every spring to trawl for cod on the Grand Banks and off the Newfoundland coast, began to undersell Newfoundland in the Spanish and Portuguese markets—being able to do this because the French Government in order to make this fishing enterprise a nursery for seamen for the French Navy, aided it with bounties equalling 70 per cent. of the value of the catch—Newfoundland retaliated by enacting a law forbidding her own people to sell or supply bait to the French, and this no-bait policy has been continued ever since, the result being that valuable markets, which Newfoundland had virtually lost in the Iberian Peninsula, have since been regained and St. Pierre has been dealt a death-blow and is now at the very nadir of its fortunes.

#### PRINCIPAL MARKETS FOR FISH.

The principal markets to which Newfoundland's dried codfish was exported last year, with the quantities sent to each and the value of the shipments, are as follows:—

Countries	Qtls.	Value.
Britain .....	58,548	\$197,972
Canada.....	128,344	482,943
B.W. Indies.....	105,282	426,541
A.W. Indies.....	40,798	175,106
United States.....	24,732	113,489
Portugal .....	256,080	1,588,798
Spain .....	280,311	986,631
Italy.....	380,762	1,444,084
Greece .....	65,202	216,353
Brazil .....	382,180	1,719,082

#### FOR A TWO-MILLION CATCH.

A leading Newfoundland merchant strongly urges that the object of the fish trade in the Colony should be to strive for an annual catch of two millions quintals of cod, and to devise new methods of curing and marketing the fish. That this policy is by no means unfeasible is proved by the fact that with the annual export of dry cod not below 1,000,000 quintals in any year of the past forty, and scarcely below 1,250,000 quintals in any year of the past fifteen, the price has increased in the same period from \$3.80 to \$5.18 per quintal. In other words, the annual export of cod from Newfoundland has not alone kept pace with the growth of the population, but has also been able to find a market at improved prices, notwithstanding all the competition that it has had to meet from rivals in the same industry and the modern production of foods in the most attractive and appetizing form. There would, consequently, seem to be no reason why a further increase in the catch to total 2,000,000 quintals should not be striven for, and that the marketing of this should not be successfully accomplished.

#### MEANS TO ATTAIN THIS END.

Some of the means by which this end might be attained would be the employment of cold storage in the preserving and distributing of much of the catch, the opening up of new markets for salted fish in countries in which it has not found a footing, the subsidizing of steamers to carry fresh or salted fish to present or prospective markets, the use of motor boats and other modern

agencies in the carrying on of the fisheries, and the manufacture into various marketable commodities of the portions of the fish now discarded but profitably utilizable for a variety of purposes. In other countries the success of large industries is due in no mean degree to the by-products formerly let go to waste, but now turned into sources of revenue. The waste from the Newfoundland fisheries is enormous, although much might be done in the conversion of all this material into fertilizer and various other marketable commodities.

### HOW AMERICANS MARKET FISH.

The putting up of a portion of the annual catch of fish in some of the forms in which it is now prepared by the Americans would also help in the same direction. At Gloucester, Massachusetts, the centre of the American fishing industry, salt cod is prepared for market in fifty different styles of package, in wood-pulp cartons, the contents being shredded fish; in box-wood cases, the contents being fish from which the skin and bone have been removed; and various other methods of treatment are adopted, the result being that fish is sent out in up-to-date packages and so is saleable to a degree not possible when it is offered in the form so long in vogue.

With the rapidly increasing population of Western Canada and the improvement of trade relations with the United States, Newfoundland should soon have markets available which will warrant her launching into these new lines of industry and enterprise, and practical observers are confident that before many years she will have made rapid advances in these directions and largely enhanced the value of her annual catch of cod by this means, besides which the prospect of similar developments in the markets for salt-cured is equally great.

### SALT COD IS CHEAP FOOD.

Salt codfish is among the cheapest edibles that tropical and semi-tropical countries can obtain, and the chief competitors in the world's trade in this article are Newfoundland, Norway and France. The Norwegian fishery most closely approaches that of

Newfoundland, while that of France, or, more properly speaking, Brittany and St. Pierre-Miquelon, comes next. Newfoundland has been able of late years to reduce the French fishery to a negligible quantity, and the most serious competitor to-day is Norway. Newfoundland has, however, been able to maintain a comparatively successful campaign as against Norwegian enterprise, and especially by the formation of a Board of Trade in St. John's, which has done splendid service in improving all the conditions that tend to make for stability and betterment in the fishery trade of the colony. Agencies are being established in foreign countries, new markets are being sought, better trade facilities are being arranged, and the outlook altogether is highly encouraging. Legislation has been adopted that is calculated to stimulate enterprise on new lines, and the future prospect for the fisheries is that a substantial improvement will result during the next few years.

#### CHANGING CONDITIONS IN TWENTY YEARS.

The student of the changing conditions in this Newfoundland codfishery will have noticed that within the past twenty years very radical and beneficial alterations have been brought about. In those days practically the whole of the annual export was carried away in sailing vessels; to-day that flotilla has almost vanished, and steamers are doing the work much more satisfactorily. Facilities for the transport and distribution of the commodity are constantly increasing. Steamers from Newfoundland to England connect at Liverpool with lines plying to Spain, Portugal and Mediterranean ports, and consignments of fish, whether small or large, can thus be sent forward with the same ease and certainty. Steamers plying to New York connect there with others which distribute the product in the West India Islands and in Brazilian ports; though it is quite true that some "sailers" are yet employed in this over-sea carrying business. Through freight rates are now given by steamship lines for all branches of this fish trade, and the enterprise is now becoming so important that additional steamship concerns are entering into it.

#### PACKING FISH IN CASKS.

Another circumstance that has contributed not a little to the enlargement of markets in Europe for cod has been the extension of

the method of packing the fish in casks, instead of shipping it in bulk, as formerly. The previous practice was to fill a ship's hold with the codfish without their being enclosed in any packages, and this resulted in the sale of the fish being confined almost entirely to the seaport towns of Spair, Portugal, Italy and Greece. The substitution of casks, however, has enabled the fish to be easily sent into the interiors of these countries, and by this means the demand for it has been greatly stimulated. Nowadays, it is not uncommon to see steamers entirely laden with fish so packed, while a further development is that in all the large fishing settlements in Newfoundland the same policy is being pursued and fish is being carried by railroad to the capital and then shipped to market.

#### COLD STORAGE ENACTMENT.

It will be probably only a matter of a brief period before the employment of steamers with cold storage equipment will be undertaken for the marketing of the cod and other fishes of the island. At the session of the Newfoundland Legislature which closed very recently, a measure was enacted by which the Government was empowered to guarantee, up to an amount of five per cent. annually for fifteen years, the capital stock of one or more cold storage companies, totalling half a million dollars, which would engage in the carriage in cold storage of fishery products between this Colony, Great Britain, Canada, United States and other foreign countries.

#### WHAT CAPITAL COULD DO.

In considering the question of the Newfoundland fisheries it is important to remember that, in regard to codfishing, which vastly overshadows all other branches of her industry, it divides itself into three branches—the Bank fishery, the Shore fishery and the Labrador fishery. The Bank fishery is prosecuted on the Grand Banks and is the least of the three, because it involves a more expensive outfit than the others and the results are not proportionately greater. On the Grand Banks there are many American, Canadian and French fishing fleets, the whole perhaps totalling 1,000 vessels and 15,000 men at the height of the season. The Shore fishery is prosecuted around the whole Newfoundland seaboard, from the early spring to the late fall, by thousands of fishermen in boats and

smacks, and has been so prosecuted for centuries, the cod abounding in apparently inexhaustible multitudes. The Labrador fishery is carried on every season by some 1,500 vessels and 20,000 people, who migrate to that coast in the spring and engage in fishing, and return in the fall after its close, shipping about half the catch direct from the coast by means of steamers to Europe, and bringing home the remainder to be cured and dried during the winter in the settlements where the voyagers live. There is no valid reason why, with the obtaining of capital from outside, these fisheries should not be developed in the form of a fresh-fish enterprise, and if this can be accomplished it means the working of an economic revolution in this Island.

## The Herring Fishery.

The herring fishery is now mainly prosecuted on the West Coast of Newfoundland in the autumn and winter, the chief resorts of the fish being Bay of Islands, Bonne Bay and Bay St. George. American fishing vessels engage largely in this enterprise, and so do Canadian, because at this season, and with Lent near at hand, implying a greatly increased demand for fish at all points, herring are not procurable anywhere else in North Atlantic Waters. The annual catch in this region is about 100,000 barrels, valued at \$250,000, perhaps one-half of the fish being taken away salted, and the other half frozen. It is believed now to be perfectly possible to ship not alone the whole of the existing output by means of cold storage or some similar process, but also to much increase the annual output through the same agency, besides doubling, if not trebling, the value of this particular industry.

### QUEST FOR NEW HERRING SHOALS.

Investigations by means of specially equipped "drifters" have been undertaken for some years past by the Newfoundland and Canadian Governments with a view to determining the existence and locality of vast shoals of herring which are believed to be found in the outer waters, and it is hoped in time to establish by this means a fishery approaching in its magnitude that on the East Coasts of



Scotland every year. This would probably be followed in time by the preparation of the Newfoundland herring in the fashion known as "Scotch cure," these herrings to-day standing first in the market and bringing at least twice the sum that can be realized for the Newfoundland article, excellent though it is known to be. Competent authorities maintain that an enormously profitable industry is to be developed by the adoption of the "Scotch cure" in this herring fishery.

### THE SMOKED HERRING INDUSTRY.

In connection with the present status of the herring fishery it is important to note that an immense trade in smoked herrings is possible of development. For many years past the town of Digby, Nova Scotia, has been conducting a smoked herring fishery the product of which is in wide demand all over Canada and, though it savors of "carrying coals to Newcastle," Digby Herring have also had a vogue in Newfoundland. Nowhere in North American waters is there so large a herring fishery as in Newfoundland and nowhere should it be possible to develop a smoked herring industry more easily or more cheaply than in this Island. Much of the herring taken from Bay of Islands every winter by the American and Canadian vessels is afterward smoked before being put into consumption, and it is now advocated that "smoke-houses" should be established near the fishing centres and the fish themselves so treated before being sent out of the country.

### The Lobster Fishery.

In no direction is there a greater possibility of revolutionizing an industry through modern agencies, than in that of the lobster fishery. The alarming decline in the annual catch of lobsters is disturbing fishermen and traders all the way from Newfoundland to Cape Hatteras, which is the range of the crustacean on this side of the Atlantic. Along the American and Canadian seaboard, owing to the great number of large cities within easy reach, the

demand for fresh lobsters cannot be supplied, for the decline has been very marked, and the outcry for som thing to be done, is one not easily to be met. Throughout Newfoundland, whence there is no export of fresh lobsters whatever—the entire output being marketed by being preserved in cans—the situation is less serious, though it is still acute enough to prove a disturbing factor. What is desired is a means, on the one hand, of providing that lobsters can be shipped to European or American markets fresh or frozen, and on the other hand that artificial agencies can be utilized to propagate lobsters to at least an extent that will maintain the existing supply. These conditions successfully met, there is an enormous profit to be made out of the lobster industry rightly handled and aggressively enterprised.

#### 7,500,000 LOBSTERS A YEAR.

The annual Newfoundland pack of lobsters now amounts to 26,000 cases, each containing 48 tins, and, calculating six lobsters to a tin, this means that the total kill of these crustaceans each year is about 7,500,000. The value of these lobsters is \$400,000, or 5 cents each. Lobsters fresh or preserved in cold storage, can now be purchased at from 40 to 60 cents in the great cities of the United States and Canada, and even if but half that amount was obtainable in the sale of Newfoundland lobsters fresh or frozen it would increase their value fivefold to the fishermen. It is not difficult, therefore, to see the vast possibilities of a highly profitable industry through the modernising of the methods of catching and exporting Newfoundland's annual catch of lobsters.

Appended will be found a table showing the export of canned lobsters from this colony the past twenty years, a study of which will prove that as the quantity has declined the price has increased :—

## EXPORTS OF LOBSTERS.

Year.	Cases.	Value.	Per Case.
1889	76,226	\$472,524	\$6.70
1890	69,552	520,078	7.50
1891	57,249	429,681	7.50
1892	32,589	260,048	8.00
1893	35,403	265,522	7.50
1894	48,056	312,364	6.50
1894-5	51,016	420,881	8.20
1895-6	56,372	465,069	8.25
1896-7	58,883	529,947	9.00
1897-8	61,951	619,510	10.00
1898-9	56,166	565,362	10.70
1899-0	37,523	441,202	11.75
1900-1	36,271	448,501	12.40
1901-2	38,368	412,256	10.80
1902-3	31,881	387,466	12.00
1903-4	31,575	410,405	13.00
1904-5	43,522	512,662	11.80
1905-6	31,328	376,490	12.00
1906-7	26,999	379,237	14.40
1907-8	26,060	418,605	16.00

## The Minor Fisheries.

The halibut, mackerel, flatfish, hake, ling, caplin, and other fisheries of Newfoundland are susceptible of extensive development under new conditions. At present the Colonists devote their energies chiefly to the cod fishery, because it yields the largest price and possesses assured markets in two hemispheres; but, given the condition that cold storage is successfully applied, all these minor fishes could be enormously increased both in volume and value. The American market is available for a great consumption of these fishes, provided they could be delivered there fresh, the modern inclination of the American people turning entirely in the direction of fresh rather than salted fish. Each year sees a greater prosecution of the fresh fish side of the business, and a diminution of the salt catch, and as this feature is developed in Newfoundland a similar result may be expected.

At present, of course, without the Colony possessing any adequate cold storage facilities it is impossible to ship these fishes to the United States, except salted, and in such form there is not a very large demand for them. In connection with the proposed installation of fish hatcheries and the increase in the sea products of the Colony thereby, which may be reasonably expected, following the experience of the United States and Canada in this direction, the introduction of new fishes into Newfoundland waters, not at present found there, could be attempted.

#### THE FISHERIES ARE THE MAINSTAY.

But even with the various kinds of succulent food, fishes, which are now sufficiently numerous to repay their chase and capture, there are opportunities for the profitable investment of capital which few countries can exceed for promise and security. Her fisheries have been the main-stay of Newfoundland for centuries; to-day fish exports form 82 per cent of the total exports; and the whole economic and commercial fabric is built upon the sure foundation of the fisheries. How sure and stable this foundation is, has been proved by the fact that these fisheries have withstood the vicissitudes of nature and man's relentless pursuit for more than four centuries.

#### THE CANNING OF CAPLIN.

An example of how new fishery projects may be enterprised is afforded by the case of the caplin. This is a fish which is most appetising as a food and with which the waters of Newfoundland literally teem every summer. It is in size somewhat larger than a sardine and either fresh or sundried it is always an appetising delicacy. Because, however, no method has been disclosed for curing or marketing it, all this abundance of sea food now goes to waste. It is literally true that thousands of tons of caplin are every year used for manure in Newfoundland, being thrown over the potato patches and kitchen gardens of the fishermen. The caplin come to the shore in the summer and are cast up by the waves in vast quantities on all the beaches, whence they are carried away for compost. If a method can be devised for dealing with these fish by canning them, as sardines or otherwise, there should be an industry possible therefrom which in years ought to equal the sardine fishery of Brittany.

### THE SALMON FISHERY.

The possibilities for the disposal of fresh salmon are very great, as the Newfoundland salmon stand first in the world, in quality. Most of the Colony's export of salmon now is salted or pickled, a comparatively small portion only being exported fresh. If the pickled salmon were sent away in a frozen state the value would be multiplied at least fourfold, and by serving the markets on both sides of the Atlantic an industry of one-half a million dollars a year could very soon be assured. Public opinion in the Colony is now being awakened to a realization of this, and plans are to be adopted whereby salmon hatcheries will be established and the artificial propagation of this splendid game and commercial fish undertaken; and means will be devised whereby the salmon fishery may become a prime factor in the Island's economic advancement.

The salmon as a sporting fish, and the opportunities of the Island from a sportsman's point of view, are dealt with in another pamphlet of this series. Suffice it to say, however, that the fame of the Island as a sporting resort is every year becoming more widespread and that the inrush of salmon-fishers is constantly increasing. The enforcement of the laws which prevent the netting of rivers will assist greatly in developing the sporting fishery for salmon, as well as the commercial salmon fishery, and as every sportsman is a foe to the illicit netting of rivers a volunteer police force with this object in view will thus be provided, while the measures which the Government has in view for increasing the available supply of salmon should find their effect in largely supplementing the quantity available every year for export.

### The Solling Wrapper.

Another instance of that which it is possible to do in the way of developing the Newfoundland fisheries is seen in the recent introduction into the Island of what is known as the Solling Process of preserving fish. This consists of wrapping them in specially-prepared paper which is the invention of Captain Solling, Danish Fishery Commissioner in London, and then packing them in ice for transport. Experiments made in the shipping of fish

from Newfoundland to Canada, United States, and Great Britain have shown that it is possible to keep fish perfectly fresh, sweet and appetizing for two to three weeks, if enclosed in these wrappers and handled with ordinary care. Already this scheme has met with much acceptance in the island, the paper is being utilized extensively for the wrapping of salmon, trout, halibut, and other fishes, and while of course the magnitude of the cod catch precludes the possibility of its being traded in this way, yet it is quite evident that under certain conditions and for certain markets a portion of the annual catch of cod can be handled by this means. This paper is also extensively used for fish-preserving purposes in England and Scotland.

#### GROWTH OF OTHER INDUSTRIES.

Among the problems which the new Government of this Colony has vigorously taken up, is that of securing new markets for our fish and especially in Western Canada and the Western States where there should be enormous possibilities for such development. One of the prospects in this direction is that of establishing a fleet of fast steamers, fitted with cold storage for carrying on a daily trade in fresh fish between the Newfoundland coast and the chief American centres of population on the American coast, such as Boston, New York and Philadelphia.

What may be done by well directed energy in these projects is seen in the tremendous growth of the banana industry in the United States, fleets of splendid steamers plying daily between these ports and the various West India Islands and bringing back cargoes of bananas, commodities much more perishable in their nature than fish, to these northern waters. Such an enterprise means no more on this side of the Atlantic than the North Sea Fishery means for England and the continental countries which border on that area, and some system of having speedy fish carriers operate with the fleets could be adopted on the Grand Banks with an equal measure of success. The Australian and New Zealand frozen mutton trade also shows the possibilities of new lines of commercial activity.

### CODFISH FOR BRITISH NAVY.

While in England last summer, attending the Imperial Defence Conference, Sir Edward Morris, the Premier of the Colony, submitted to the War Office and the Admiralty samples of Newfoundland codfish put up fresh in hermetically sealed cans, by a boiling process absolutely free from any chemical preparation, with a view to its being served to the soldiers and bluejackets, so that if it should prove acceptable it could be put on the ration lists of both the Army and the Navy. Several cases of this fish were supplied to H. M. S. *Dreadnought*, and the official report thereon was to the effect that "chief petty officers' messes and the petty officers' messes speak well of it, and as these messes have better facilities for preparing it in an appetizing form, it is possible that it might be utilized to some extent by them, if procurable in the canteen." It was therefore suggested that the packers of fish in Newfoundland might communicate with the various concerns purveying sea food to the navy so that they may keep it in stock and supply it to the naval canteens as required, and it is thought that gradually a substantial trade will be thus built up for a very tempting eatable.

### Cod-Liver Oil.

The possibilities in the direction of creating a highly valuable industry in the refining of cod-liver oil are illustrated by the figures supplied below, which give the export of this commodity annually for the past ten years. It will be seen that in 1903-4, especially, there was an enormous increase in the quantity and in the value of the cod-liver oil exported, and that this condition prevailed to a lesser extent in the following year. The reason for this very abnormal increase was that a complete failure of the codfishery in Norway had rendered the Norwegian supply of refined oil utterly inadequate to the needs of the markets which absorb it. Cod-liver oil, as is well known, has a recognized value in pulmonary cases; and Norway, because of her larger population and consequent increased ability to develop an export trade in this article, has succeeded in gaining the primacy in the world's markets therefor. Newfoundland cod-liver oil, however, has secured in recent years the highest awards in International exhibitions,

and under these circumstances it only requires energy and effort for the colony to secure any larger proportion of this trade than she has hitherto been able to normally obtain. The immense value, from a colonial standpoint, of this trade, is seen from the figures of 1903-4, and the production of that much cod-liver oil entailed no strain whatever upon the other industries of the colony. Ordinarily the vast bulk of the oil obtained from the livers of the cod in Newfoundland is exported as "cod oil," which differs from "cod-liver oil" in the industrial world, in that the latter is the refined product used for medicinal purposes; and the former is the one which becomes rancid, and is used for tanning. "Cod oil" is an inevitable accompaniment to the carrying on of the cod-fishing-industry as at present conducted, when fishermen abroad on the Grand Banks, afar at Labrador, or established in isolated settlements around our own seaboard, have no means of keeping the livers fresh, and no inducement for any special efforts so to do. Newfoundland could, without difficulty, easily supply the world's whole demand for refined cod-liver oil, but even if that proved unfeasible in the near future, there is still the opportunity existing for a very much larger increase in the annual output.

The figures are as follows :

Year.	Gallons.	Value.
1899-1900	17,695	\$ 8,598
1900-1901	22,970	12,710
1901-1902	20,164	11,142
1902-1903	44,407	37,240
1903-1904	191,403	482,792
1904-1905	114,506	137,265
1905-1906	59,781	34,995
1906-1907	51,547	31,755
1907-1908	48,015	26,289
1908-1909	93,780	31,604

## The Seal Fishery.

The Newfoundland seal fishery is a striking proof of how judicious legislation has contributed to maintain this industry almost unimpaired in its magnitude for generations, whereas the in-



discriminate slaughter and absence of such enactments have brought about the virtual extermination of a similar industry elsewhere in the world. To-day the Alaskan seal fishery is but the shadow of what it once was, while the Newfoundland seal herds are little diminished and the industry is as profitable as ever.

Little is known, historically, of the early days of Newfoundland's seal fishery, which, strictly speaking, is not a fishery at all, the seal being an aquatic mammal, warm blooded, and suckling its young as land animals do. Scientifically the Newfoundland seal is an ice-riding pinniped, that is to say, its habitat is the ice-field that drifts southwards in the grip of the Arctic current, from the Polar wastes to the Grand Banks. On this ice the female brings forth its young in February off Labrador, and in March the seal fleet puts out from St. John's on its annual quest for these creatures. The young seals are chiefly sought, as their hide yields the softest leather and their fat the finest oil. If sufficient young ones cannot be had, the parents are killed instead.

#### HISTORY OF ENTERPRISE.

In the first half of the last century the fishery was prosecuted by sailing vessels, small at first but gradually increasing in size, to schooners and "square riggers." In 1853 the first steamer was employed in the fishery, and gradually steamers displaced sailing vessels altogether. Special steamships were built in the earlier days to carry on the industry, stout wooden vessels like the Scotch whalers. Indeed, for a long period the ships prosecuted both industries, sealing in the Spring off Newfoundland, and whaling in the Summer off Greenland. For thirty years or so the steam sealing fleet has numbered from 15 to 25 vessels, and the catch has varied from 200,000 to 350,000 seals.

Four years ago a new departure was made, when a large steam freighter, appropriately enough named the "Adventure," was constructed in England, of special design and superior strength, to engage in this business during March, and to serve as a cargo carrier for the remainder of the year. She proved such a great success that three others have since been built on the same design, and a fourth, still larger, was added last season, plying the rest

of the year as a passenger liner between New York and St. John's and it is thought that as the wooden crafts gradually vanish, they will be replaced by steel boats, until the industry is prosecuted entirely by these.

The pelt, comprising the skin and adhering fat, is alone sought, and is stripped from the carcase of the seal. On arriving at St. John's the fat is removed from the hide and rendered into oil by steam heat, the oil being then extensively utilized as an illuminant for light houses, as the basis for high-class soaps, and as a substitute for olive oil; while the skins are made into patent leather and into bicycle saddles, kit bags, and other similar articles. A prime pelt, as landed at St. John's, is worth \$2, so that a season's catch of 300,000 seals means a disbursement of \$600,000 in the colony.

#### LATEST SEALING LEGISLATION.

The tanning of the hides is all done abroad, and in the various processes through which the article passes its value enhances accordingly; so that steps are now being taken to carry on this work in Newfoundland, and keep within the colony the total sum of the profits of the business. The trend of legislation in this industry of late years has been as follows:—

Thirty years back ships could make two, or if especially fortunate, three trips; now more than one is forbidden. Then ships could sail on the first of March and kill indefinitely; now they must not sail before the tenth, nor kill before the twelfth, and must cease on the 30th. of April. During the present year, indeed, the owners of the fleet agreed amongst themselves to postpone the sailing date until the 12th, and the killing date until the 15th, and to enforce other restrictions, as it has been found of late years that numbers of immature seals have been taken. As this season's experiment proved a success, it is probable that a legislative enactment on the same lines will be enforced next year.

The annual products of the seal fishery for the past ten years is appended here.

## EXPORTS OF SEAL PRODUCTS.

Year.	Skins.	Oil—tuns.	Value.
1899-0.....	203,858	5,340	\$595,935
1900-1.....	327,163	4,651	707,527
1901-2.....	528,150	3,945	800,314
1902-3.....	341,395	4,375	778,821
1903-4.....	234,639	2,748	562,054
1904-5.....	315,685	3,783	745,235
1905-6.....	283,400	3,741	611,524
1906-7.....	164,509	5,351	642,267
1907-8.....	115,890	3,367	449,134
1908-9.....	371,963	2,861	685,882

## Whale Fishery.

This industry off the shores of Newfoundland has been pursued for some twelve years past by what is known as the modern method of whale killing. The whales found in Newfoundland waters are not the cachalots or sperm whales, of the tropics; nor the bowheads, or baleen whales, of the Arctic; but an intermediate class known as the rorquals, or racer whales, subdivided into the bluebacks, or sulphur bottoms, finbacks and humpbacks. All these whales are valuable chiefly for the oil that is obtained from their blubber. They are bone whales in the sense that like the Arctic whales their mouths are not furnished with teeth, but with a flexible cartilage known as baleen, or whalebone, and its use is to enable them to expel the water in which float the medusae that they feed on after they have taken a huge mouthful of the liquid in which these creatures are to be found.

The modern method of whale hunting differs from the old time method in that all the whales that are killed are towed to the shore and every particle of the huge carcass is turned to some commercial utility. The blubber is converted into oil. The baleen is cut out and cleaned, to enter into various manufactures. The juices are made into glue, and all the refuse is transformed into fertilizer, which is of the highest quality of excellence. The chase of these local whales is carried out by means of small, but speedy setamers, of about 100 tons burden, making twelve

knots, with powerful engines to operate the winches by means of which the stout ropes are held after the whale has been trans-fixed with the harpoon.

In the killing of the Newfoundland type of whales, the old-time sailing craft, with her brood of small boats and armament of hand harpoons, could not suffice for a day. The speed of the torquals renders sails of no value; the size of the "fish" reducing the efficiency of the hand harpoon to nothingness. The modern harpoon is another matter.

This new brand of harpoon is made of two bolts of wrought iron, each four feet in length, connected at both ends by a sort of hub. Affixed to it in movable shanks are four cross bars like anchor flukes. Above the head a hollow conical bomb, filled with gunpowder, is attached. The bomb has a time fuse which expires two seconds after the harpoon has penetrated the carcass of the leviathan. A stout rope connects the harpoon and the vessel. The mortar gun is located at the bow of the steamer, and is so arranged that it can make a semi-circle horizontally and can be raised or lowered.

The steamers start at sunrise when the whales show an inclination to come to the surface and enjoy a series of "blows." When the quarry is sighted, the steamer pursues, gets within shooting distance, and then fires her projectile. Frequently the bomb causes instant death, but in many cases it gives the whale only a mortal wound and serves to keep him in tremendous activity for a couple of hours or more. When the whale is dead it is towed back to the harbor where the "factory" is, in which the various processes of transforming the carcass into merchantable products are conducted, and in due course the oil "bone," fertilizer and by-products are exported to the foreign markets where they are in demand.

In some recent years the value of the colony's whaling exports has approached half a million dollars.

## GOVERNOR MACGREGOR'S REPORT.

Sir William MacGregor, late governor of the colony, in a "report on the foreign trade and commerce of Newfoundland," transmitted to the Right Hon. Alfred Lyttelton, Secretary of State for the Colonies, in January, 1905, says:

"The clear upward tendency is certainly satisfying in the case of the dry-cod export. It would seem to indicate that there is no falling off in the numbers of the fish that frequent these seas. Very little seems to have been done to increase production of the fisheries by artificial means, or to standardize exports. There can be no doubt that very much could be done here by improving the methods of curing fish, and by introducing new methods of preparing them for export; while at the same time the quantity obtainable could in several branches be much increased. It is greatly to be regretted that, both as regards fish and minerals, British capital is not further employed in this colony, where, as far as one can judge, it could be profitably invested. This question is one of the most interesting and important of all that are raised in this report. It would surely be worth while considering how the attention of British capitalists could be drawn to the undeveloped resources of this colony, and tables attached to this report indicate clearly, in graphic form, how the trade of the colony is being lost to the United Kingdom, and is passing to Canada and the United States. The best remedy for this and probably the only one, would be that British capitalists should take a much greater share in the development of this colony than is the case at present. There can be no doubt that the exports of the colony will be largely increased by the use of cold storage; by improved methods of curing fish; by seeking for new, and extending present markets, and carefully studying their requirements; and by applying to the fisheries generally, and the working of minerals, the powerful aid of modern science. I think you will agree with me that on the whole this report points to a prosperous future for Newfoundland."

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